

NATIONAL ACADEMY OF SCIENCES

WALTER DAVIS LAMBERT

1879—1968

A Biographical Memoir by
CHARLES A. WHITTEN

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Biographical Memoir

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WALTER DAVIS LAMBERT was born January 12, 1879, in New Brighton, New York. He died October 27, 1968, at the Washington Hospital Center after a brief illness. Funeral services were held in Salisbury, Connecticut.

His ancestry was English, with records indicating descendancy from William the Conqueror on the Lambert side of the family as well as on the maternal side. His paternal grandfather, Henry Lambert (1812-1909), who came to America in 1836, was the son of an English colonel, Luke Lambert (about 1780-1824). Henry led a varied career of keeping store, studying theology, joining the Gold Rush of the 1850s to California, and later returning to New England and the ministry. Dr. Lambert's father, Walter Lambert (1849-1930), was a banker associated with firms engaged in international finance. He has been described as a quiet man except on the golf course when his game was not good. He had several hobbies including philately, astronomy (he built a telescope for himself), and designing and building hull models of small sailing craft for his friends. Also, he was an ardent small-craft sailor and a capable deep-water navigator, having sailed in the Bermuda races. Dr. Lambert's mother, Elizabeth Bigelow Davis (1853-1932), was born in Northboro, Massachusetts.

The Davis line in New England has been traced to Dolor Davis, who came from England in 1634. For the most part, the Davis family descendants were successful farmers and businessmen.

Dr. Lambert had three sisters and a brother. One sister died young and another, Mary, died a month before Dr. Lambert. His brother, Richard D. Lambert, lives in Orleans, Massachusetts, and his youngest sister, Marjorie (Mrs. Horace Groff), lives in Sheffield, Massachusetts. Dr. Lambert was married to Bertha Brown on June 18, 1917; she died October 15, 1959.

Lambert received his early education at a public school on Staten Island and at Friends' Seminary, Rutherford Place, in New York City. He attended Harvard University, graduating with highest honors in mathematics, magna cum laude, in 1900. He had been elected to Phi Beta Kappa in January 1900. He continued his study of mathematics at Harvard, and the following year received a Master of Arts degree.

In 1901-1902 Lambert was an instructor of mathematics at Purdue University in Lafayette, Indiana. The next two years he taught mathematics and astronomy at the University of Maine in Orono. In 1904 he accepted a position as mathematician with the U.S. Coast and Geodetic Survey.

In 1907 the University of Pennsylvania in Philadelphia awarded him a special scholarship for graduate study, designating him a Harrison Fellow. In addition to his advanced study, he also taught mathematics. He was elected to Sigma Xi in 1909. His Government Service Record indicates that he continued an association with the Survey on a part-time basis while in Philadelphia, assisting in the measurement of magnetic variations and obtaining tidal height records. In 1911 he returned to Washington and resumed his full-time duties with the Survey.

In 1917 Lambert was commissioned a First Lieutenant in the U.S. Army and was later assigned to the 101st Engineering Regiment in France. In some of his correspondence relating to his military service, he wrote: "I headed a detachment of young Americans who helped run a cement factory at Mantes-sur-Seine, otherwise Mantis-Gassicourt, a suburb of Paris. Presumably this was because I had a good command of French." In 1919, after the war, he was reassigned to the Coast and Geodetic Survey.

Lambert's talents had been recognized by John F. Hayford and William Bowie at the time of his initial appointment. They encouraged him to investigate all of the mathematical and physical aspects of the geodetic problems being considered at that time. He was an ardent student and clear writer. Throughout his life, his advice and knowledge were frequently requested by young geodesists. Lambert took great pains to encourage their inquisitiveness and their interest in geodesy. He published more than sixty articles dealing with geodesy. There are as many unpublished articles and reports in the archives of the Coast and Geodetic Survey which are referred to frequently by scientists in the Washington area. A mere scanning of the titles in this collection of papers reveals the breadth of his interests. By referring to the chronological order, one can trace the development of geodetic science during the first half of the twentieth century.

Lambert took an active part in the affairs of the International Association of Geodesy (IAG). In the years immediately after World War I, Hayford and Bowie had been the principal U.S. delegates to international conferences. In Bowie's later years, Lambert often accompanied him to such meetings. After Bowie's retirement in 1937, Lambert was recognized as the chief delegate officially representing the United States. He was the "International Reporter on Earth

Tides" for IAG for a period of thirty years (1924-1954). The Proceedings of the Fifth International Symposium on Earth Tides, held in Brussels in 1964, were published in his honor.

Much more significant is the support he gave IAG during and immediately after World War II. In 1936, at the Edinburgh General Assembly, Lambert had been elected 2d Vice President of IAG, a position uniquely assigned to a representative from the country to be the host for the next General Assembly. The following assembly was held in Washington in September 1939. Dr. A. Vening Meinesz, of the Netherlands, was the President of IAG. General Georges Perrier from France was the Secretary General. Perrier had arrived in the United States for the General Assembly, but had to return to Paris before the meeting actually opened. Many other delegates from Europe had to return under similar orders because of the outbreak of what was to become World War II. In addition to other responsibilities, Lambert filled the role of Secretary General, forwarding to the Central Bureau in Paris complete reports on each day's meetings. It was not feasible to make administrative decisions and there were no elections because of the lack of a representative delegation.

During the following seven years, Lambert and Perrier continued to correspond in spite of the difficulties imposed by wartime censorship. They carried out the work of the Association in a very remarkable manner. Many of the officers and key personnel engaged in the work of the Association were in places where travel and communication were restricted. News of some was utterly lacking, and only in later years was it learned that a few had died.

In 1946, after the International Union of Geodesy and Geophysics (IUGG) had held an Extraordinary General Assembly in Cambridge, the International Association of Ge-

odesy met in Special General Assembly in Paris. Lambert was elected President of IAG to serve until the Oslo Assembly in 1948. At Oslo he was reelected and served until the Brussels Assembly in 1951. At that time, the Association honored him by electing him Honorary President for the rest of his life.

Lambert also contributed to the work of the International Astronomical Union (IAU). He assisted in the solution of many problems, scientific and administrative, associated with the international program for determining the variation of latitude. The International Latitude Service, so named at that time, received its direction from the two scientific unions most interested in the results —IAU and IUGG through IAG. The chapter on the variation of latitude in the National Research Council Bulletin No. 78, "Physics of the Earth-II, The Figure of the Earth," was written chiefly by Lambert. That chapter is still accepted as the clearest explanation and definition of this aspect of polar motion ever published.

Because of his knowledge of all fields of geodesy and his talent for clarity of expression, Lambert was asked by the publishers of the *Encyclopaedia Britannica*, 14th edition, to prepare the section on Geodesy. Portions of that original statement have appeared in subsequent editions and were still being published in 1969.

For the major part of Lambert's career in the Coast and Geodetic Survey, he had not been assigned administrative tasks, but was permitted to conduct research and have the support and assistance of his colleagues and associates within the Division of Geodesy. However, he did not completely escape the management role, and during the last few years of his service he was Chief of the Gravity and Astronomy Branch in the Geodesy Division. He was not inclined to permit the administrative details to interfere with his real in-

terests, and he easily disposed of the governmental trivia through assignment to his assistants.

The regulations for retirement at the age of seventy became a mere formality for Lambert. In 1949, the year of his retirement, he received three significant honors. He was uniquely honored by election to the National Academy of Sciences. He was also honored by the American Geophysical Union through the award of the William Bowie Medal. As the Bowie medalist, he was cited for his unselfish cooperation in the broad field of earth sciences. In his modest way, he humbly expressed his appreciation by thanking his many colleagues and by referring to his outstanding superiors of former years, one of whom had been Bowie. The third honor in that year was his recognition by the Department of Commerce with the award of the Gold Medal for Exceptional Service.

Soon after his retirement, the Lamberts left their home in suburban Washington and returned to New England. The quiet, comfortable living in the northwestern corner of Connecticut in the town of Canaan had far more appeal than the heat and humidity of Washington. He visited Washington for scientific meetings, making his headquarters at the Cosmos Club where he could entertain his friends and relax in familiar surroundings.

The files of the Coast and Geodetic Survey contain personal notes of instruction or requests from Lambert indicating a postretirement activity almost equal to that of earlier years. Those files also contain a literary gem—a description of his visit to the Babson Gravity Research Foundation in southern New Hampshire—which sparkles with his wit and keen observance of surroundings, and which he mailed to the office without any specific instruction for publication.

Even though Lambert preferred to continue his postretirement career by study in his home in Connecticut, he was

sought frequently as a special consultant. He became an active participant in the research programs of the Institute of Geodesy at Ohio State University. In 1950, Dr. Weikko A. Heiskanen, of Finland, had been asked to serve as Director of that Institute at Columbus, and in the same year Lambert joined him. This was a very fortunate arrangement. These two world leaders of geodesy had been closely associated for many years through their cooperative work in physical geodesy, Heiskanen as Director of the Finnish Geodetic Institute and also Director of the International Isostatic Institute at Helsinki, and Lambert through his work with the Coast and Geodetic Survey and the International Association of Geodesy. Ohio State University honored Lambert in 1957 by conferring on him the degree of Doctor of Science in recognition of his many contributions to the science of geodesy. His association with Ohio State University continued for many years. In the Preface of Heiskanen and Moritz's *Physical Geodesy*, published in 1967, one finds an expression of thanks to Lambert for his assistance in the review of the manuscript.

In reviewing Lambert's contributions to geodesy, there is hardly any branch of the science in which he did not make some type of investigation. Throughout his life, though, there was a continuing effort which may be described as the study of the physical properties of the earth's gravity field and their geodetic application, with particular emphasis on mathematical methods. Even in his eighty-fifth year, while participating in the symposium "Extension of Gravity Anomalies to Unsurveyed Areas," he presented a paper, "The Isostatic Reduction of Gravity Data and Its Indirect Effect," in which he made positive recommendations for future study.

Lambert was interested in many local, national, and international scientific societies and organizations to which he contributed much of his time and energy in support of their

programs. The following list of his active and honorary memberships gives some indication of the breadth of these activities:

National Academy of Sciences (1949)
Paris Academy of Sciences
Royal Astronomical Society (elected "Associate," 1963)
International Astronomical Union
International Association of Geodesy (Vice President, 1936-1946; President, 1946-1951; Honorary President, 1951-1968)
American Geophysical Union (President, Section of Geodesy, 1929-1932)
American Association for the Advancement of Science (Fellow, 1922; elected a "50-year Member," 1967)
American Mathematical Society
Mathematical Association of America (Charter Member)
Seismological Society of America
American Astronomical Society
Washington Academy of Sciences (Vice President, 1930)
Philosophical Society of Washington (President, 1930; Life Member, 1952)

Lambert was elected to the Cosmos Club of Washington in 1937.

Lambert's interest in the affairs of many of these scientific organizations continued until his death. His vitality and vigor astounded those who had known him through the years. In October 1966 he sold his home in Canaan and returned to Washington, living at the Cosmos Club. He told his friends, "I plan to stay here until I am carried out, either to the hospital or to the cemetery."

All of those who were fortunate enough to have been associated with Dr. Lambert as a scientific colleague, as an inquisitive student, or as friend or neighbor know of the sincere concern he had for the people who worked with him. His memory is endeared by them, not only for his unselfish cooperation in scientific research, but, more personally, for his quiet unselfish regard for his fellow men.

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KEY TO ABBREVIATIONS

- Am. J. Sci. = American Journal of Science
 Am. Math. Monthly = American Mathematical Monthly
 Astron. J. = Astronomical Journal
 Bull. Géod. = Bulletin Géodésique
 Bull. Nat. Res. Council = Bulletin of the National Research Council
 Gerlands Beitr. Geophys. = Gerlands Beiträge zur Geophysik
 J. Wash. Acad. Sci. = Journal of the Washington Academy of Sciences
 Trans. Am. Geophys. Union = Transactions of the American Geophysical Union

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(Editor's Note: In October 1970 the Coast and Geodetic Survey was combined with several other agencies in the formation of NOAA—National Oceanic and Atmospheric Administration. The Coast and Geodetic Survey is now the National Ocean Survey.)